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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/077,391 | 02/15/2002 | Nikolco S. Nikolovski | 29385-69914 | 4154 |
| 23643 | 7590 | 06/06/2005 | EXAMINER | |
| BARNES & THORNBURG 11 SOUTH MERIDIAN INDIANAPOLIS, IN 46204 | | | TRAN, LEN | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1725 | |

DATE MAILED: 06/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/077,391

Applicant(s)

NIKOLOVSKI ET AL.

Examiner

Len Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4/14/05.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-5, 8-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strezov et al (US 5,701,948), and further in view of Bergeron et al (US 4,588,021)

Strezov et al discloses a method of continuously casting a steel strip comprising the steps of providing a chilled casting surface, made of copper, with a texture, with a casting pool of molten steel having a manganese content of no less than 0.6% by weight, silicon in the range of 0.1 to 0.35% by weight, carbon content less than 0.07% by weight (col. 7, lines 42-51). Strezov

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et al also discloses wherein the texture have surface distribution of between 5 to 100 peaks per mm square and average height of at least 10 microns to 20 microns (col. 3, lines 7-12).

Strezov et al lacks the disclosure of:

a **random height distribution** on the rollers,

casting surface is defined by a grit blasting surface covered by a protective coating, wherein the coating is an electroplated metal coating, or formed by chemical deposition, or electrodeposition,

coating is chromium, cobalt, molybdenum, and nickel,

wherein the coating is formed of a material which has a low affinity for the oxidation products in the molten steel such that molten steel has a greater affinity for the coating material and wets the coating in preference to the oxidation products.

However, Bergeron et al is introduce to disclose a casting surface being grit blasted, wherein grit blasting inherently causes **a random height distribution on the casting surface**, followed by a protective coating on the gritted casting surface (col. 2, lines 55-62), wherein the coating is formed of nickel, cobalt, molybdenum, and chromium (col. 7, lines 63-65, col. 8, line 53, col. 10, line 57). Bergeron et al disclose the above differences for the purpose of increasing the life of the casting surface and the surface quality of and property of the cast product is significantly improved (col. 3, lines 1-8).

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide grit blasting to have random height distribution,

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followed by coating the casting surface as taught by Bergeron et al, in Strezov et al in order to increase the life of the casting surface and improve the quality of the cast product.

Furthermore, Bergeron disclose **deposition of the coating** on the casting surface, but not specific to either chemical or electrodeposition. However, either these method are obvious to an ordinary skill in the art.

4. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strezov et al (US 5,701,948), and further in view of Bergeron et al (US '021), in view of Irie et al (US 4,368,084).

Strezov et al and Tanaka disclose the claimed invention above, but fail to teach the strip are moving away from casting pool at 60 m/min to 75 m/min.

However, Irie et al disclose speed rate of the strip to be rolled at 60 min/m to 80 min/m for the purpose of increasing the productivity of metal strip.

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide the speed as taught by Irie et al, in Strezov et al and Bergeron et al because increasing the productivity of the metal strip allows saving costs and time to the operation.

Response to Arguments

5. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

In response to applicant's argument on page 5 and 6, examiner has introduced a new prior art, Bergeron et al (US 4,588,021) to teach the **amended claimed invention**. Applicant has amended the independent claims 1 and 9, to include a "random height distribution" to overcome the prior rejection. However, Bergeron et al disclose grit blasting, wherein grit blasting inherently causes random height distribution on the casting surface as more elaborately explained above in paragraph 3.

As to applicant's argument in pages 7 and 8, that the combination of prior arts are not proper, examiner withdrew the prior arts of record as rejection, since Bergeron et al teaches the **new essential claimed features** in addition to grit blasting that necessitate the new ground of rejection.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

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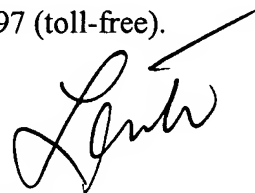
will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Len Tran whose telephone number is (571) 272-1184. The examiner can normally be reached on M-F, 8:30 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Len Tran
Examiner
Art Unit 1725



June 1, 2005